

ABSTRACT OF THE DISCLOSURE

A control system for canceling load unbalance of a three-phase circuit includes phase current detectors for detecting phase currents caused to flow through a secondary circuit of a current transformer provided in high voltage distribution lines, respectively, phase change-over switches through which phases of the high voltage distribution lines, and primary sides of distribution transformers provided across high and low voltage distribution lines are connected to each other, a control center for, when a magnitude of a zero-phase current detected by the zero-phase current detector is larger than a predetermined value, on the basis of the phase currents, respectively, outputting a control signal so that the load of the phase having a maximum current appearing therein is changed over to the phase having a minimum current recognized therein, and a phase change-over slave station for controlling the phase change-over for the phase change-over switches in accordance with the control signal.